AMENDMENTS TO THE SPECIFICATION

Please replace the heading "Background of the Art" with the heading "BACKGROUND OF THE ART" which is in all caps.

Please replace the heading "Summary of the Invention" with the heading "SUMMARY OF THE INVENTION" which is in all caps.

Please replace the heading "Brief Description of the Drawings" with the heading "BRIEF DESCRIPTION OF THE DRAWINGS" which is in all caps.

Please replace the heading "Detailed Description of a Preferred Embodiment" with the heading "DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT" which is in all caps.

Please replace paragraph [0006] with the following amended paragraph:

[0006] There is therefore the need to satisfy the requirements for a level of stimulation intensity which is as low as possible and at the same time regular successful stimulation, by optimisation of the stimulation intensity. For that purpose, it is known from the state of the art, for example from US patents Nos, 5,350,410[[,]]; 5,411,533[[,]]; 5,431,639; and 5,674,254, after delivery of a stimulation pulse, to detect the stimulation outcome (capture) (this being referred to as capture recognition), in order to trigger a back-up stimulation pulse if possible in the event of a defective stimulation outcome or capture.

Please replace paragraph [0007] with the following amended paragraph:

[0007] It is also known for a stimulation outcome to be detected by detecting the impedance of the heart muscle tissue. In this connection attention is to be directed to US

patents Nos. 5,713,933[[,]]; 5,735,883; and 5,766,230, and European patent application No. 0 399 063.

Please replace paragraph [0010] with the following amended paragraph:

[0010] In accordance with the invention that object is attained by an electrical stimulation device of the kind set forth in the opening part of this specification, in which the means for stimulation outcome monitoring, at least after delivery of a stimulation pulse, is connected to the electrode connection and is adapted to detect the configuration in respect of time of a voltage at the capacitance after delivery of the stimulation pulse or of the short-circuit current flowing by virtue of said voltage or a further parameter linked to one of [[said]]the parameters. The invention therefore aims to short-circuit a capacitance which is charged during delivery of a stimulation pulse - whether it is the Helmholtz capacitance which is formed on the surface of the stimulation electrode or another capacitance - after delivery of the stimulation pulse by way of the heart muscle tissue and to detect the corresponding short-circuit voltage or the short-circuit current or a parameter derived therefrom for determining the myocardium impedance.

Please replace paragraph [0044] with the following amended paragraph:

[0044] In specific terms for example at the time t = 1s a stimulus of 2.4 V is delivered, that is to say S2 is closed. The stimulus is 0.5 ms long, then S2 is opened again and at the same time S3 is closed for autoshort purposes. The autoshort time is 10 ms long, thereafter S3 is open again. During the discharge depolarisation occurs after 5 ms, the membrane resistance abruptly changes for 1 ms. In the measured voltage pattern, [[that]]the membrane resistance change is expressed in terms of an altered time constant in respect of discharge. After depolarisation, however, the electrode is discharged with the original time constant to another level. The curve therefore produces a slight jump corresponding to the abrupt membrane resistance.

Please replace paragraph [0047] with the following amended paragraph:

[0047] Detection of a stimulation outcome by the means 28 for stimulation outcome monitoring is effected by evaluation of the voltage applied at the electrode line connection 36. Upon successful electrostimulation that voltage briefly breaks down, as in the event of successful stimulation, indicating that the impedance of the myocardium, [[-]] shown in Figure 1 by a parallel connection of a capacitance 40 and a variable ohmic resistance 42, [[-]] temporarily changes in such a way that the ohmic resistance 42 of the myocardium decreases for a moment because the ion channels, in particular the sodium channels of the muscle cells, open. That dip in impedance is detected by the means 28 for stimulation outcome monitoring and evaluated in such a way that the means 28 for stimulation outcome monitoring delivers a signal characterising stimulation success, to the control unit 26.

Please replace paragraph [0048] with the following amended paragraph:

[0048] As the effects of the change in membrane resistance are slight, depolarisation can possibly only be detected with difficulty from the configuration of the discharge voltage itself. In order better to recognise the jump in the time constant, the curve can be differentiated (Figure 4, curve a) or the differentiated curve can additionally also be divided by the initial curve (Figure 4, curve b).

Please replace paragraph [0049] with the following amended paragraph:

[0049] In a preferred embodiment the means 28 for stimulation outcome monitoring detects both the voltage between the neutral electrode 16 and the electrode line connection 36 by way of a voltage measuring unit 50 (see Figure 2) and also the derivative of that voltage with respect to time. For that purpose a differentiating member

52 is connected downstream of the voltage measuring unit 50. The derivative of the detected voltage is standardised to the detected voltage by way of a dividing member 54. For that purpose the dividing member 54 receives both the output signal from the differentiating member 52 at an input E2 and also the voltage detected by the voltage measuring unit 50 at an input E1 of the dividing member 54. In the dividing member 54 the value at the input E2 (the derivative of voltage with respect to time) is divided by the value at the input E1 (the detected voltage). The signal at the output of the dividing member 54 is passed to a threshold value detector which is formed by a comparator 56 and a threshold value memory 58. If the output value of the dividing member 54 exceeds the comparative value (threshold) stored in the memory 58, that is an indication of successful electrostimulation. Accordingly, a signal characterising stimulation success occurs at the output of the comparator 56 which is at the same time the output of the means 28 for stimulation outcome monitoring.

Please replace paragraph [0052] with the following amended paragraph:

[0052] In individual cases, if it is assumed that all capacitances and resistances determining the discharge are combined together in a time constant T, the following is afforded for the autoshort voltage:

$$V_{auto}(t) = V_0 e^{(-\frac{t}{T})}. \text{ That is to say, } \frac{dV_{auto}}{dt} \frac{1}{V_{auto}} = -\frac{1}{T}$$

is thus inversely proportional to the time constant. After that conversion of the signal, it is possible to determine a variation in the time constant, for example, with an adaptive threshold value process. When such a process is adopted, for example, a sliding mean value of the derived and standardised curve is formed. If a value of that curve exceeds the sliding mean value by a predetermined threshold value a change in the time constant is recognised.